

Appl. No. 10/083,001
Amdt. dated November 20, 2003
Reply to Office Action of August 28, 2003

REMARKS

This is responsive to the Office Action dated August 28, 2003 in which claims 1-32 were examined. As a result of this amendment, claims 1-30 and 32-33 are now pending in this application.

The Office Action indicates that claims 5, 8, 10, 12-16, 17, 19, 22, 24 and 25 were merely objected to as being dependent upon a rejected base claim, but otherwise allowable if rewritten in independent form. Applicant greatly appreciates the indication of allowability of these claims. While claim 17 was objected to as being dependent upon a rejected base claim, Applicant notes that claim 17 is an independent claim. Therefore, Applicant respectfully suggests that claim 17 should have been allowed. Applicant has not amended claim 17 herein because it is already in independent form. However, claims 5, 12 and 19 have been amended herein to be placed in independent form. Claims 13-16 depend from now independent claim 12. As a result, Applicant respectfully asserts that these claims are also in condition for allowance.

The Office Action indicates that claim 7 was objected to because of an informality which has been corrected herein. Applicant greatly appreciates the indication of this informality and requests reconsideration of the claim objection.

Claims 1, 2, 4, 11, 18, 31, 23, 26 and 30 were rejected under § 102 as being anticipated by U.S. Patent No. 4,193,509 issued to Dunn, Jr. The Office Action asserts that Figure 1 in Dunn depicts a container thread between the closure thread 12 and the

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anti-backoff element 13 and that an angler inclination of the anti-backoff member is different from an angular inclination of the thread as shown in Figure 2 of the reference. Additionally, claims 6, 7, 9, 20 and 21 were rejected under § 103 as being unpatentably obvious over Dunn in view of Applicant's own admission of known equivalents; namely, that a plurality of thread segments are known in the art for engaging closure threading to container threading.

Claims 27 and 29 were rejected under § 102 as being anticipated by U.S. Patent No. 6,123,212 issued to Russell. The Office Action indicates that Figures 1 and 4 of Russell depict different angular inclinations.

Claims 1, 3, 27, 29 and 32 were rejected under § 102 as being anticipated by U.S. Patent No. 5,292,020 issued to Narin. Allegedly, Figure 2 in Narin depicts a container thread between the closure thread 34 and an anti-backoff element 44. An angular inclination of the anti-backoff member is allegedly different from an angular inclination of the thread as shown in Figures 3-6 of Narin. Moreover, claim 28 was rejected under § 103 as being unpatentable over Narin because it allegedly would have been obvious to provide the anti-backoff member on the container as opposed to the closure as shown in Narin.

Of the claims rejected in the Office Action, nos. 1, 3, 18, 23, 26, 27 and 30 are independent claims. Applicant respectfully asserts that based upon the amendments to those claims and the remarks given herein, that each of the independent and associated

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dependent claims identified in the rejections are patentably novel and non-obvious over Dunn, Russell, Narin and the other prior art of record. As such, Applicant respectfully requests reconsideration of the pending claims.

Applicant's invention includes a unique anti-backoff member for use on a closure and container assembly in which the anti-backoff member has various unique features. Among those features is the fact that the anti-backoff member is: longer than the associated threads on the closure (shown in Applicant's Figs. 5A and 6), flexible to engage the complementary threads on the container/closure (Figs. 2, 3D and 5B), and at a different angular orientation than the threads (Figs. 2, 3A-3D, 4 and 7). Additional unique features of Applicant's invention are also identified in the specification. Applicant respectfully asserts that the claims as amended herein provide both novel and non-obvious distinctions over the cited references of Dunn, Russell and Narin.

Specifically, Dunn discloses a closure having high retention torque characteristics which are derived from a portion of the threads on the closure "which is increased in depth near its terminus" (col. 3, Ins. 33-34). The alleged anti-backoff member or feature disclosed and taught in Dunn is merely an enlarged portion of the closure thread as shown particularly in Figs. 1 and 2. Since the alleged anti-backoff member in Dunn is a portion of the closure thread, it is naturally oriented exactly the same as the closure thread.

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Similarly, Russell discloses a rotation inhibiting projection 40 which is interposed between adjacent, parallel, and axially spaced thread formations 19 on the closure. As shown in Figs. 1 and 3, the projection 40 is oriented parallel to the threads.

To overcome the rejections based on Russell and Dunn, Applicant has amended independent claims 1, 18, 23, 26, 27 and 30 to recite that a lead angle of the anti-backoff member is different from a lead angle of the threading. The term "lead angle" is readily recognized by those of ordinary skill in the art as being an angle made by the helix of a screw thread with a plane perpendicular to the screw axis. A related concept is the term "lead" which is generally understood as the distance a screw thread advances in one revolution. Numerous examples of this well accepted concept of the term "lead angle" can be found on the Internet and, for example, at www.midstatesbolt.com, www.roton.com, www.aasfasteners.com and others.

Examples of the differing lead angles between the anti-backoff member and the threads in Applicant's invention are shown in Figs. 3A-3B, 4 and 7. Such an arrangement is distinctly different from the relationship of the alleged anti-backoff members in Russell and Dunn relative to the corresponding threads. In Russell, the member is oriented in parallel with the threads and, therefore, has the same lead angle. In Dunn, the anti-backoff member is merely an extension or an enlarged portion of the thread and, therefore, also has the identical lead angle as the thread. For at least these reasons, Applicant respectfully asserts that the §§ 102 and 103 rejections based upon Russell and

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Dunn have been overcome by the clarification of this feature in the identified independent and associated dependent claims.

With respect to the alleged anti-backoff member in Narin, Applicant has amended independent claims 1, 3 and 27 to distinguish this reference. Specifically, the alleged anti-backoff member in Narin is identified by reference numeral 44 as a protuberance, rib or bead. However, unlike the anti-backoff member of Applicant's invention, the bead 44 in Narin is not flexible and does not deflect when it engages the container threading. Figs. 3D and 5B of Applicant's specification specifically show the flexible anti-backoff member deflecting to engage the container threading. Narin fails to teach, disclose or otherwise suggest that the bead 44 is flexible or deflects when in contact with the container threading. Therefore, this feature has been added to independent claims 1, 3 and 27 to distinguish the Narin reference and overcome the associated rejections in the Office Action.

New claim 33 has been added to recite this feature and depends directly from claim 30.

As a result of the amendments to the claims and the remarks given herein, Applicant respectfully asserts that each of the rejections and objections identified in the Office Action have been overcome. As such, Applicant respectfully requests reconsideration and allowance of claims 1-30 and 32-33 at the Examiner's earliest convenience. If the Examiner feels that any matter in this case requires further attention

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prior to issuing a Notice of Allowance, she is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved.

Respectfully submitted,

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